RESULTS OF WEED CONTROL STUDIES IN VEGETABLE CROPS—1985

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Results of Field Experiments in Vegetable Weed Control - 1985

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General Materials and Methods

Abbreviations for herbicide application methods:

- PPI - Preplant incorporated
- Pre - Preemergence to the weed and crop
- Del Pre - Delayed preemergence, just prior to crop emergence
- Post - Postemergence to the weed and crop

All Rates are in pounds of active ingredient per acre.

Sprayer:

Treatments were applied with a CO_2 backpack type sprayer with a gpa of 29.2 and 30 psi. Some treatments were applied with a tractor-drawn sprayer delivering some spray pressure of 30 psi and a volume of 24 gpa.

Weed Ratings:

Weed counts were made by counting the number of weeds in a 1 square foot wire frame. Counts were made approximately 30 days after treatment. All plots were cultivated and hoed regularly after weed counts were taken (except unweeded check). Visual ratings are on a 1 to 10 scale with 1 - no weed control and 10 = complete weed control.

Injury Rating:

Visual rating was rated on a 1 to 10 scale with 1 - complete crop kill and 10 - no crop injury.

Statistical Analysis:

Fishers LSD at the 5% level was performed on all experiments.
Plot designs were a Randomized Complete Block (RCB) with 3, 4 or 5 reps.

Activated Carbon:

An activated carbon/vermiculite safening system was used on some seeded crops (tomato and cabbage). 1 lb activated carbon was mixed with each cubic foot of vermiculite. This mixture was then used to fill the seed furrow. One ft^3 cover 600 ft. of row.

Spray Additives:

Some postemergence applications were with a crop oil concentrate (C.O.C.) or a nonionic surfactant (X-77).

Appreciation is given to the folowing people for their assistance in conducting these research studies:

Mr. Gerald Myers - Farm Superintendent, Columbus
Mr. Richard Hassell - Branch Manager, Celeryville
Mr. Chuck Willer - Branch Manager, Fremont
Mr. Mike Ruizzo - Graduate Research Associate
Mr. Steve Reiners - Graduate Research Associate
Mr. Avi Teitz - Graduate Research Associate
Ms. Monica Wertz - Research Technician

The cover illustration is by Ms. Jackie TerMeer, formerly of the Department of Horticulture, The Ohio State University.

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Table 2. Chemicals Used in Experiments

Common Name	Trade Name
Acetochlor*	Monsanto
Acifluorfen	Blazer
Alachlor	Lasso
Atrazine	Aatrex
BAS 51702*	BASF
Benefin	Balan
Bensulide	Prefar
Bromoxynil	Brominal
Chloramben	Amiben
Chlorpropham	Furloe, Chloro IPC
Cloproposydim	Selectone
Cycloate + R25788	Roneet +
DCPA	Dacthal
Diethatyl ethyl	Antor
DPX-Y-6202*	Assure
Ethalfluralin	Sonolan
EPTC	Eptam, Genep
EPTC + 33685	Eradicane Extra
Fluazifop-butyl	Fusilade
Fluorochloridone	Racer
Lactofen	Cobra
Linuron	Lorox
Metholachlor	Dual
Metribuzin	Sencor/Lexone
Napropamide	Devrinol
Propachlor	Ramrod
PPG 1013*	PPG Industries
SC-1084*	Stauffer Chemical Co.
SD 095481*	Shell
Sethoxydim	Poast
Thiobencarb	Bolero
Trifluralin	Treflan

*Experimental compound, name of manufacturer is listed in place of trade name.

Table 2. Weeds Mentioned in Report

Abbreviation	Common Name	Scientific Name
BLNS	Black nightshade	*Solanum nigrum*
BYGR	Barnyard Grass	*Echinochloa crusgalli*
COLQ	Common Lambsquarter	*Chenopodium album*
COPU	Common Purslane	*Portulaca oleracea*
CRGR	Crabgrass	*Digitaria spp.*
FAPA	Fall Panicum	*Panicum dichotomiflorum*
HAGA	Hairy Galinsoga	*Galinsoga ciliata*
LACG	Large Crabgrass	*Digitaria sanguinalis*
LOGR	Love Grass	*Eragrostis pilosa*
LTSW	Ladysthumb Smartweed	*Polygonum persicaria*
RRPW	Redroot pigweed	*Amaranthus retroflexus*
VEMA	Venice Mallow	*Hibiscus trionum*

1985 Rainfall - Lane Aveunue Farm, Columbus

Day	April	May	June	July	August	September	October
1					.40		.9
2		2.00		1.36			
3		.50	.09	.86			
4							
5			.03				
6				1.37	.01		
7					.10		
8				.05			
9							
10			.20	.15			
11							
12			.86				
13		.06	.22				
14		.05	.15				
15		.7		1.65			
16		.24			.40		
17		.42	.30				
18			.08				
19			.05		.01		
20		.40					
21							
22		.05		.68			
23							
24						.5	
25	.07						
26							
27	.02						
28		1.25					
29				.05			
30							
31							
TOTAL	.09	5.67	1.98	6.17	.92	.5	.9

1985 Rainfall - Vegetable Crops Branch, Fremont

Day	April	May	June	July
1		.42		.16
2	.20		.29	
3				
4				.11
5	.53			.01
6	.02			
7	.06			
8	.13		.20	
9				.84
10				
11			.76	
12			.15	
13			.02	
14		.11	.01	.73
15	.02	.36	.31	
16		.76	.05	
17		.18	.14	
18		.03		
19				
20		1.01		
21				
22			.03	
23				
24				
25				.13
26		.02		
27		.74		
28				
29				
30				.54
31				.17
TOTAL	.96	3.63	1.96	2.69

1985 Rainfall - Celeryville

Day	May	June	July	August	September
1					
2	.8		.6		
3	.2	.35		.1	
4					
5					
6				.1	
7				.1	
8				.6	
9					
10		.25	1.6		
11					
12		.70			
13		.30			
14				.25	
15	.5			.4	
16	.55	.3		.75	
17	.55	.2			
18	.70	.75			
19					
20					
21	.40				
22					
23					
24		.02			
25				.7	
26				.1	
27				.4	
28	1.30				
29					
30				.75	
31			1.1		
TOTAL	5.0	2.87	3.3	4.25	

TITLE: SNAPBEANS/CHLORAMBEN STUDY

LOCATION: Columbus
PERSONNEL: S.F.Gorski & G.Myers

PLOT INFORMATION

A.) Soil Type: Brookston Silty Clay Loam, 2% O.M.,Ph 6.0
B.) Variety: Tendercrop
C.) Date Planted: May 8
D.) Date Harvested: July 5
E.) Plot Size: 5 ft. by 25 ft.
F.) Rating Date: June 14
G.) Plot Design: RCB with 3 reps

HERBICIDE APPLICATION DATA

A.) Date: May 8
B.) Type: PPI & Pre
C.) Soil Moisture, Surf: Moist
D.) Soil Temp (3in.):
E.) Weather
Wind (MPH): Calm
Cloud Cover: Clear
Air Temp: 70
F.) Growth Stage, Crop: Preemergence

Weed: Preemergence

HERBICIDE APPLICATION EQUIPMENT

Sprayer: CO2 Backpack
GPA: 29.2
PSI: 30
Tips: 8002
Nozzle Spacing: 18 in.
Height: 18 in.

INCORPORATION EQUIPMENT: Roto Tiller set to 2 inches.

COMMENTS: There was no apparent phytotoxicity from any of the treatments. However bean yields were sometimes significantly lower than the weeded check. It appeared that the herbicide treated plants were 1 or 2 days slowed in their growth than the control. Yields would have probably been similar had harvesting been delayed. Metolachlor was needed to control the small flowered galinsoga.

SNAPBEANS/CHLORAMBEN STUDY

HERBICIDE NAME	FORM	RATE #ai/A	GROWTH STAGE	COUNT PER SQ. FT. HAGA	BLNS	COPU	VEMA	BYGR	YIELD (lbs)
WEEDY				6.0	0.7	4.0	0.7	0.7	10.4
WEEDED				0.0	0.0	0.0	0.0	0.0	17.0
CHLORAMBEN	D0.75	2.25	PPI	4.0	0.7	0.0	0.0	0.0	8.8
CHLORAMBEN	D0.75	2.25	PRE	3.7	0.0	0.0	0.0	0.0	12.7
CHLORAMBEN	D0.75	2.25	PPI	0.3	0.0	0.0	0.0	0.0	11.5
METOLACHLOR	E8.0	2.0	PPI						
CHLORAMBEN	D0.75	2.25	PRE	0.0	0.3	0.0	0.0	0.0	13.1
METOLACHLOR	E8.0	2.0	PRE						
CHLORAMBEN	D0.75	2.25	PPI	3.0	0.0	0.0	0.7	0.0	10.8
METOLACHLOR	E8.0	1.0	PPI						
CHLORAMBEN	D0.75	2.25	PRE	0.0	0.0	0.0	0.0	0.0	13.2
METOLACHLOR	E8.0	1.0	PRE						
LEAST SIGNIFICANT DIFF. (.05)=				2.0	0.6	2.2	0.7	0.7	4.3
STANDARD DEVIATION =				1.1	0.3	1.2	0.4	0.4	2.4
COEFF. OF VARIABILITY =				55.65	177.6	254.9	265.9	489.8	20.2

TITLE: CABBAGE POSTEMERGENCE WEED CONTROL

LOCATION: Fremont
PERSONNEL: S.F.Gorski & C.Willer

PLOT INFORMATION

A.) Soil Type: Sandy Loam, 3% O.M.
B.) Variety: King Cole
C.) Date Planted: May 16
D.) Date Harvested: August 13
E.) Plot Size: 3 ft. by 30 ft.
F.) Rating Date: June 17
G.) Plot Design: RCB with 4 reps

HERBICIDE APPLICATION DATA

A.) Date:	May 16	June 6
B.) Type:	Pre	Post
C.) Soil Moisture, Surf:	Moist	Dry
D.) Soil Temp (3in.):		
E.) Weather		
Wind (MPH):	Calm	Calm
Cloud Cover:	Cloudy	Sunny
Air Temp:	65	65
F.) Growth Stage, Crop:	Pre	2 leaf
Weed:	Pre	None

HERBICIDE APPLICATION EQUIPMENT

Sprayer: CO2 Backpack
GPA: 29.2
PSI: 30
Tips: 8002
Nozzle Spacing: 18 in.
Height: 18 in.

COMMENTS: Weed pressure was too light and spotty to rate. Therefore this should be considered a cabbage phyto study only. There was no visible phytotoxic effects to the cabbage and yields ~~were~~ WAS acceptable.

CABBAGE POSTEMERGENCE WEED CONTROL

HERBICIDE NAME	FORM	RATE #ai/A	NUMBER HEADS	YIELD (lbs)
FLUAZIFOP-BUTYL	E1.00	0.19	19.0	88.2
C.O.C.	P	1.00		
SETHOXYDIM	E1.50	0.20	20.0	88.2
C.O.C.	P	1.00		
BAS51702	E1.67	0.20	17.7	84.1
C.O.C.	P	1.00		
BAS51702	E1.67	0.50	17.3	76.4
C.O.C.	P	1.00		
METOLACHLOR	E8.0	2.0	19.3	79.6
DPX-Y6202	E0.8	0.13	18.7	86.2
C.O.C.	P	1.00		
DPX-Y6202	E0.8	0.25	18.7	78.6
C.O.C.	P	1.00		
CLOPROPOSYDIM	E3.0	0.15	19.7	87.2
C.O.C.	P	1.00		
CLOPROPOSYDIM	E3.0	0.30	19.7	84.6
C.O.C.	P	1.00		
SC-1084	E4.0	0.38	18.7	85.0
C.O.C.	P	1.00		
FLUAZIFOP-BUTYL	E4.0	0.25	16.7	76.0
C.O.C.	P	1.00		
CONTROL			19.3	89.3
LEAST SIGNIFICANT DIFF. (.05)=			3.5	18.2
STANDARD DEVIATION		=	2.0	10.7
COEFF. OF VARIABILITY		=	11.0	12.8

TITLE: CABBAGE PREEMERGENCE WEED CONTROL

LOCATION: Fremont
PERSONNEL: S.F.Gorski & C.Willer

PLOT INFORMATION

A.) Soil Type: Sandy Loam, 3% O.M.
B.) Variety: King Cole
C.) Date Planted: May 16
D.) Date Harvested: August 13
E.) Plot Size: 3 ft. by 30 ft.
F.) Rating Date: June 6
G.) Plot Design: RCB with 4 reps

HERBICIDE APPLICATION DATA

A.) Date: May 16
B.) Type: Pre & PPI
C.) Soil Moisture, Surf: Moist
D.) Soil Temp (3in.):
E.) Weather
Wind (MPH): Calm
Cloud Cover: Cloudy
Air Temp: 65
F.) Growth Stage, Crop: Preemergent

Weed: Preemergent

HERBICIDE APPLICATION EQUIPMENT

Sprayer: CO2 Backpack
GPA: 29.2
PSI: 30
Tips: 8002
Nozzle Spacing: 18 in.
Height: 18 in.

INCORPORATION EQUIPMENT: Rototiller cutting 2 in.

COMMENTS: Weed pressure was extremely light in this field. Therefore weed data was not obtained. Plant counts were taken before the cabbage was blocked and represent the effect that the herbicide had on cabbage germination. Napropamide had a negative effect on cabbage germination. Chloramben was completely phytotoxic. The addition of carbon and vermiculite as an anticrustant/protection system significantly increased cabbage germination. This response was probably due to both systems. These plants were also approx. 40% larger than the untreated control. Various amounts of stunting was present from the treatments. However due to the length of the growing season most plants were able to recover and produce acceptable yields.

CABBAGE PREEMERGENCE WEED CONTROL

HERBICIDE NAME	FORM	RATE #ai/A	GROWTH STAGE	PLANT[1] STAND	% STUNTING	HEAD NUMBER	YIELD (lbs)
WEEDY				170.3	0.0	19.7	94.97
WEEDED				174.0	0.0	21.0	88.67
METOLACHLOR	E8.0	2.0	PRE	164.0	18.3	19.0	74.20
METOLACHLOR + CARBON/VERMICULITE	E8.0	2.0	PRE PRE	402.0	0.0	18.0	79.47
DCPA	W0.75	6.0	PRE	157.0	0.0	17.3	87.40
DCPA	W0.75	8.0	PRE	159.0	0.0	19.3	101.77
METOLACHLOR DCPA	E8.0 W0.75	1.0 6.0	PRE PRE	129.0	13.3	18.0	79.47
NAPROPAMIDE	W0.50	2.0	PPI	108.3	23.3	17.7	78.77
NAPROPAMIDE DCPA	W0.50 W0.75	1.0 6.0	PPI PPI	121.0	11.7	20.3	92.63
CHLORAMBEN	D0.75	2.7	PRE	27.0	95.0	2.7	5.60
CHLORAMBEN DCPA	D0.75 W0.75	2.7 6.0	PRE PRE	9.0	95.0	2.3	5.23
DCPA	W0.75	8.0	PPI	154.0	0.0	19.0	85.50
TRIFLURALIN	E4.0	1.0	PPI	140.0	30.0	17.7	82.77
DIETHATYL ETHYL	E4.0	2.0	PRE	129.0	0.0	18.0	81.17
DIETHATYL ETHYL	E4.0	4.0	PRE	122.0	0.0	18.3	84.00
LEAST SIGNIFICANT DIFF. (.05)=				80.73	3.09	4.53	17.26
STANDARD DEVIATION =				48.28	1.85	2.71	10.32
COEFF. OF VARIABILITY =				33.44	9.67	16.35	13.80

[1]Plant stand is taken at 2 leaf stage and is for 30 feet of row.

TITLE: CARROT PREEMERGENCE WEED CONTROL

LOCATION: Celeryville
PERSONNEL: S.F.Gorski & R.Hassell

PLOT INFORMATION

A.) Soil Type: Carlisle Muck, 75% O.M.,pH 5.3
B.) Variety: Scarlet Nantes
C.) Date Planted: May 22
D.) Date Harvested: July 16
E.) Plot Size: 3 rows 16 in. apart on beds 5 ft. by 18 ft.
F.) Rating Date: June 11
G.) Plot Design: RCB with 4 reps

HERBICIDE APPLICATION DATA

A.) Date: May 22
B.) Type: Pre
C.) Soil Moisture, Surf: Moist
D.) Soil Temp (3in.):
E.) Weather
Wind (MPH): Calm
Cloud Cover: Cloudy
Air Temp: 65
F.) Growth Stage, Crop: Preemergence

Weed: Preemergence

HERBICIDE APPLICATION EQUIPMENT

Sprayer: CO2 Backpack
GPA: 29.2
PSI: 30
Tips: 8002
Nozzle Spacing: 18 in.
Height: 18 in.

COMMENTS: Herbicides were not irrigated in and rainfall did not occur for several days. Weed control was therefore not optimum since the herbicide was on the soil surface. If the herbicides had been irrigated into the zone of weed seed germination weed control would have much more acceptable.

CARROT PREEMERGENCE WEED CONTROL

HERBICIDE NAME	FORM	RATE #ai/A	WEED COUNTS PER SQ. FT. CRGR	RRPW	COPU	HAGA	LTSW	YIELD (lbs)
WEEDY			6.7	6.0	6.7	4.7	3.0	0.00
WEEDED			0.0	0.0	0.0	0.0	0.0	17.97
FLUOROCHLORIDONE	E2.0	0.38	6.3	6.0	2.7	0.3	2.7	16.40
FLUOROCHLORIDONE	E2.0	0.50	4.7	2.3	4.3	0.7	2.7	16.33
FLUOROCHLORIDONE	E2.0	0.75	5.0	1.7	0.7	0.0	2.0	18.60
FLUOROCHLORIDONE	E2.0	1.0	2.7	1.3	2.3	0.0	2.7	18.13
DIETHATYL ETHYL	E4.0	4.0	3.0	0.7	2.7	0.0	4.0	17.13
DIETHATYL ETHYL	E4.0	6.0	0.3	1.0	1.3	0.0	2.0	17.73
DIETHATYL ETHYL	E4.0	8.0	1.0	0.3	1.3	0.0	0.3	17.53
CHLORAMBEN	D0.75	1.0	2.0	2.3	0.7	1.3	2.0	17.77
CHLORAMBEN	D0.75	2.0	1.3	1.7	0.7	3.3	0.7	15.60
L.S.D. (.05) =			3.62	3.63	2.48	2.34	3.35	2.74
STANDARD DEVIATION =			2.13	2.13	1.46	1.38	1.97	1.61
COEFF. OF VARIABILITY =			70.92	100.30	68.66	146.30	98.43	10.21

TITLE: POSTEMERGENCE WEED CONTROL IN CELERY

LOCATION: Celeryville
PERSONNEL: S.F.Gorski & R.Hassell

PLOT INFORMATION

A.) Soil Type:	Carlisle Muck, 75% O.M., pH 5.6
B.) Variety:	Utah 5270 R Improved
C.) Date Planted:	Transplanted May 22
D.) Date Harvested:	August 7
E.) Plot Size:	5 ft. by 18 ft.
F.) Rating Date:	July 16
G.) Plot Design:	RCB with 3 reps

HERBICIDE APPLICATION DATA

A.) Date:	May 22	July 2
B.) Type:	Pre	Post
C.) Soil Moisture, Surf:	Moist	Moist
D.) Soil Temp (3in.):		
E.) Weather		
Wind (MPH):	Calm	Calm
Cloud Cover:	Cloudy	Cloudy
Air Temp:	65	70
F.) Growth Stage, Crop:	3-5 in.	12 in.
Weed:	Pre	None

HERBICIDE APPLICATION EQUIPMENT

Sprayer:	CO2 Backpack
GPA:	29.2
PSI:	30
Tips:	8002
Nozzle Spacing:	18 in.
Height:	18 in.

COMMENTS: This was a celery phyto study only. There was no visible injury to the celery or yield reductions.

POSTEMERGENCE WEED CONTROL IN CELERY

HERBICIDE NAME	FORM	RATE #ai/A	GROW. STAGE	YIELD (lbs)
CONTROL				25.1
DPX-Y6202	E0.8	0.13	POST	25.9
C.O.C.	P	1.00	POST	
DPX-Y6202	E0.8	0.25	POST	24.1
C.O.C.	P	1.00	POST	
CLOPROPOSYDIM	E2.0	0.05	POST	26.2
C.O.C.	P	1.00	POST	
CLOPROPOSYDIM	E2.0	0.15	POST	28.2
C.O.C.	P	1.00	POST	
CLOPROPOSYDIM	E2.0	0.30	POST	24.8
C.O.C.	P	1.00	POST	
SC-1084	E4.0	0.25	POST	26.6
C.O.C.	P	1.00	POST	
SC-1084	E4.0	0.38	POST	25.6
C.O.C.	P	1.00	POST	
SETHOXYDIM	E1.5	0.20	POST	25.2
C.O.C.	P	1.00	POST	
FLUAZIFOP-BUTYL	E1.0	0.13	POST	24.8
C.O.C.	P	1.00	POST	
FLUAZIFOP-BUTYL	E1.0	.156	POST	23.3
C.O.C.	P	1.00	POST	
FLUAZIFOP-BUTYL	E1.0	.188	POST	27.0
C.O.C.	P	1.00	POST	
FLUAZIFOP-BUTYL	E4.0	0.25	POST	25.0
C.O.C.	P	1.00	POST	

LEAST SIGNIFICANT DIFF. (.05)	=	5.4
STANDARD DEVIATION	=	3.2
COEFF. OF VARIABILITY	=	12.5

TITLE: CELERY PREEMERGENCE WEED CONTROL

LOCATION: Celeryville
PERSONNEL: S.F.Gorski & R.Hassell

PLOT INFORMATION

A.) Soil Type: Carlisle Muck, 75% O.M. pH 5.6
B.) Variety: Utah 5270 R Improved
C.) Date Planted: Transplanted May 22
D.) Date Harvested: August 7
E.) Plot Size: 5 ft. by 18 ft.
F.) Rating Date: July 2
G.) Plot Design: RCB with 4 reps

HERBICIDE APPLICATION DATA

A.) Date: May 22
B.) Type: Pre
C.) Soil Moisture, Surf: Moist
D.) Soil Temp (3in.):
E.) Weather
Wind (MPH): Calm
Cloud Cover: Cloudy
Air Temp: 65
F.) Growth Stage, Crop: Preemergence

Weed: Preemergence

HERBICIDE APPLICATION EQUIPMENT

Sprayer: CO2 Backpack
GPA: 29.2
PSI: 30
Tips: 8002
Nozzle Spacing: 18 in.
Height: 18 in.

COMMENTS: Diethatyl Ethyl caused slight stunting to the celery. At the June 11 rating 5-15% stunting was obvious with the various rates. Yields did not show a reduction.

CELERY PREEMERGENCE WEED CONTROL

HERBICIDE NAME	FORM	RATE #ai/A	Counts per sq. ft. LACG	COLQ	COPU	YIELD (lbs)
WEEDY			1.3	0.5	7.0	32.0
WEEDED			0.0	0.0	0.0	33.0
DIETHATYL ETHYL	E4.0	4.0	0.8	0.5	5.3	30.7
DIETHATYL ETHYL	E4.0	6.0	0.0	1.0	4.8	30.5
DIETHATYL ETHYL	E4.0	8.0	0.5	1.8	3.5	29.3
CHLORAMBEN	D0.75	1.0	0.3	0.5	2.3	31.2
CHLORAMBEN	D0.75	2.0	1.0	0.3	2.0	31.3
LEAST SIGNIFICANT DIFF. (.05)=			1.7	1.1	3.2	4.3
STANDARD DEVIATIQN =			1.1	0.78	2.1	2.9
COEFF. OF VARIABILITY =			220.6	121.2	61.4	9.4

TITLE: CUCUMBER /CHLORAMBEN RESIDUE STUDY

LOCATION: Columbus
PERSONNEL: S.F.Gorski

PLOT INFORMATION

A.) Soil Type: Brookston Silty Clay Loam, 2% O.M., pH 6.0
B.) Variety: Marketmore 76
C.) Date Planted: May 30
D.) Date Harvested: July 23 - August 8
E.) Plot Size: 5 ft. by 50 ft.
F.) Rating Date: June 27
G.) Plot Design: RCB with 4 reps

HERBICIDE APPLICATION DATA

A.)	Date:	May 30	June 18
B.)	Type:	Pre	Post
C.)	Soil Moisture, Surf:	Moderate	Dry
D.)	Soil Temp (3in.):		
E.)	Weather		
	Wind (MPH):	Calm	Calm
	Cloud Cover:	Sunny	Partly Cloudy
	Air Temp:	75	75
F.)	Growth Stage, Crop:	Pre	1 true leaf
	Weed:	Pre	None

HERBICIDE APPLICATION EQUIPMENT

Sprayer: CO2 Backpack
GPA: 29.2
PSI: 30
Tips: 8002
Nozzle Spacing: 18 in.
Height: 18 in.

INCORPORATION EQUIPMENT: Irrigation (0.5 in) for the granular formulation.

COMMENTS: There was no visible phytotoxicity to the cucumbers from either of the treatments. Weed data was not obtained as this was a relatively weed free field.

CUCUMBER/CHLORAMBEN RESIDUE STUDY

HERBICIDE NAME	FORM	RATE #ai/A	GROWTH STAGE	YIELD (lbs)
CHLORAMBEN CARBON	D0.75	2.7	PRE	93.4
CHLORAMBEN	G0.10	3.0	POST	85.2
CONTROL				105.3
LEAST SIGNIFICANT DIFF. (.05)=				24.6
STANDARD DEVIATION		=		14.2
COEFF. OF VARIABILITY		=		15.3

TITLE: ENDIVE TOLERANCE TO FLUAZIFOP BUTYL

LOCATION: Celeryville
PERSONNEL: S.F.Gorski & R.Hassell

PLOT INFORMATION

A.) Soil Type: Carlisle Muck, 75% O.M., pH 5.6
B.) Variety: Florida Deep Heart
C.) Date Planted: May 22
D.) Date Harvested: July 28
E.) Plot Size: 3 rows 16 in. apart on beds 5 ft. by 18 ft.
F.) Rating Date: June 24
G.) Plot Design: RCB with 4 reps

HERBICIDE APPLICATION DATA

A.)	Date:	June 13	June 28
B.)	Type:	Post	Post
C.)	Soil Moisture, Surf:	Dry	Wet
D.)	Soil Temp (3in.):		
E.)	Weather		
	Wind (MPH):	Calm	Calm
	Cloud Cover:	Cloudy	Cloudy
	Air Temp:	65	70
F.)	Growth Stage, Crop:	5-6 leaf	15 leaf
	Weed:	2-4 leaf	None

HERBICIDE APPLICATION EQUIPMENT

Sprayer: CO2 Backpack
GPA: 29.2
PSI: 30
Tips: 8002
Nozzle Spacing: 18 in.
Height: 18 in.

COMMENTS: Annual grasses were killed by the herbicide applications. There was no phytotoxicity to the endive.

ENDIVE TOLERANCE TO FLUAZIFOP-BUTYL

HERBICIDE NAME	FORM	RATE #ai/A	GROW. STAGE	YIELD (lbs)
WEEDY				36.38
WEEDED				32.30
FLUAZIFOP-BUTYL	E1.00	.375	45 D.B.H.	30.05
C.O.C.		1.00% (v/v)	45 D.B.H.	
FLUAZIFOP-BUTYL	E1.00	.375	30 D.B.H.	
C.O.C.		1.00% (v/v)	30 D.B.H.	
FLUAZIFOP-BUTYL	E1.00	0.75	45 D.B.H.	31.68
C.O.C.		1.00% (v/v)	45 D.B.H.	
FLUAZIFOP-BUTYL	E1.00	0.75	30 D.B.H.	
C.O.C.		1.00% (v/v)	30 D.B.H.	
LEAST SIGNIFICANT DIFF. (.05)=				6.92
STANDARD DEVIATION =				4.33
COEFF. OF VARIABILITY =				13.27

TITLE: LETTUCE PREEMERGENCE WEED CONTROL

LOCATION: Celeryville
PERSONNEL: S.F.Gorski

PLOT INFORMATION

A.) Soil Type: Carlisle Muck, 75% O.M., pH 5.6
B.) Variety: Bibb
C.) Date Planted: May 22
D.) Date Harvested: July 16
E.) Plot Size: 3 rows 16 in. apart on beds 5 ft. by 18 ft.
F.) Rating Date: June 11
G.) Plot Design: RCB with 4 reps

HERBICIDE APPLICATION DATA

A.) Date: May 22
B.) Type: Pre
C.) Soil Moisture, Surf: Moist
D.) Soil Temp (3in.):
E.) Weather
Wind (MPH): Calm
Cloud Cover: Cloudy
Air Temp: 65
F.) Growth Stage, Crop: Preemergence

Weed: Preemergence

HERBICIDE APPLICATION EQUIPMENT

Sprayer: CO2 Backpack
GPA: 29.2
PSI: 30
Tips: 8002
Nozzle Spacing: 18 in.
Height: 18 in.

COMMENTS: One half inch of irrigation was applied to this experiment immediately after the treatments were applied. This attributed to the improved weed control over previous years. Chloramben provided the best weed control of all compounds tested. Lettuce injury was in the form of plant stunting (chloramben) and non emergence (diethatyl ethyl). Lettuce injured by chloramben recovered by harvest without yield reductions.

LETTUCE PREEMERGENCE WEED CONTROL

HERBICIDE NAME	FORM	RATE #ai/A	WEED COUNTS PER SQ. FT. CRGR	FAPA	COPU	COLQ	LTSW	RRPW	LETTUCE PHYTO[1]	YIELD (lbs)
WEEDY			1.5	2.5	11.3	0.3	2.8	1.0	10.0	0.00
WEEDED			0.0	0.0	0.0	0.0	0.0	0.0	10.0	17.65
CHLORAMBEN	D0.75	0.50	1.8	1.5	0.3	0.3	1.5	1.0	9.8	18.35
CHLORAMBEN	D0.75	1.00	0.0	0.0	0.0	0.3	1.0	0.5	9.3	18.30
CHLORAMBEN	D0.75	2.00	0.3	0.0	0.0	0.0	1.3	0.0	8.8	17.48
CHLORAMBEN	D0.75	3.00	0.3	0.0	0.0	0.0	0.0	0.0	8.3	19.20
CHLORAMBEN	D0.75	4.00	0.0	0.3	0.8	0.0	1.5	0.0	7.0	16.98
THIOBENCARB	E8.00	4.00	0.5	0.8	3.8	0.5	2.5	0.0	9.8	15.90
CHLORAMBEN THIOBENCARB	D0.75 E8.00	1.00 3.00	0.3	0.5	1.3	0.0	1.0	0.3	8.5	17.75
CHLORPROPHAM	E4.00	4.00	0.8	0.0	5.5	0.5	0.8	1.0	10.0	17.90
CHLORAMBEN CHLORPROPHAM	D0.75 E4.00	1.00 2.00	1.3	0.0	0.0	0.3	0.8	1.0	9.8	18.80
BENSULIDE	E4.00	6.00	0.0	0.3	4.8	0.0	2.5	0.8	10.0	18.48
DIETHATYL ETHYL	E4.00	4.00	0.0	0.0	4.0	0.0	2.3	0.8	1.5	0.00
DIETHATYL ETHYL	E4.00	6.00	0.3	0.0	2.3	0.0	0.0	0.0	1.0	0.00
DIETHATYL ETHYL	E4.00	8.00	0.0	0.0	0.5	0.0	1.0	0.3	0.8	0.00
L.S.D. (.05) =			1.37	1.29	4.49	0.46	2.05	1.28	1.43	3.26
STANDARD DEVIATION =			0.96	0.91	3.14	0.32	1.43	0.90	1.00	2.28
COEFF. OF VARIABILITY =			208.60	236.00	137.50	240.90	114.70	207.40	13.17	17.40

1) PHYTOTOXICITY SCALE: 1 TO 10 WITH 1 = COMPLETE PLANT DEATH AND 10 = NO PLANT INJURY

TITLE: POSTEMERGENCE WEED CONTROL IN LETTUCE

LOCATION: Celeryville
PERSONNEL: S.F.Gorski & R.Hassell

PLOT INFORMATION

A.)	Soil Type:	Carlisle Muck, 75% O.M., pH 5.6
B.)	Variety:	Bibb
C.)	Date Planted:	May 22
D.)	Date Harvested:	July 16
E.)	Plot Size:	3 rows 16 in. apart on beds 5 ft. by 18 ft.
F.)	Rating Date:	July 2
G.)	Plot Design:	RCB with 3 reps

HERBICIDE APPLICATION DATA

A.)	Date:	May 11	June 21
B.)	Type:	Pre	Post
C.)	Soil Moisture, Surf:	Moist	Moderate
D.)	Soil Temp (3in.):		
E.)	Weather		
	Wind (MPH):	Calm	5
	Cloud Cover:	Cloudy	Clear
	Air Temp:	65	75
F.)	Growth Stage, Crop:	Preemergence	
			8-10 leaf
	Weed:	Preemergence	
			2-3 leaf

HERBICIDE APPLICATION EQUIPMENT

Sprayer:	CO2 Backpack
GPA:	29.2
PSI:	30
Tips:	8002
Nozzle Spacing:	18 in.
Height:	18 in.

COMMENTS: A preemergence application of thiobencarb at 4 lbs. ai/A was made to the entire plot. Weed pressure in the experimental area was moderate with approximately 60 annual grasses per plot. Fall Panicum represented 90% of the population while Harry Crabgrass and Barnyardgrass each represented 5%. Lettuce was not injured by any of the treatments. Annual grass injury and death varied with the herbicide rate and grass species. Lovegrass seemed particularly hard to control.

POSTEMERGENCE WEED CONTROL IN LETTUCE

HERBICIDE NAME	FORM	RATE #ai/A	PHYTOTOXICITY RATINGS[1] FAPA	BYGR	LOGR	LETTUCE	YIELD (lbs)
CONTROL			10.0	10.0	10.0	10.0	14.93
DPX-Y-6202	EO.8	0.13	1.0	1.0	2.0	10.0	15.50
C.O.C.	P	1.00					
DPX-Y-6202	EO.8	0.25	1.0	1.0	1.7	10.0	14.27
C.O.C.	P	1.00					
BAS51702	E1.67	0.10	1.0	1.0	2.0	10.0	16.13
C.O.C.	P	1.00					
BAS51702	E1.67	0.20	1.3	1.3	4.3	10.0	16.37
C.O.C.	P	1.00					
BAS51702	E1.67	0.50	1.0	1.0	1.7	10.0	12.20
C.O.C.	P	1.00					
BAS51702	E1.67	0.50	1.0	1.0	1.3	10.0	15.53
CLORPROPOSYDIM	E2.0	0.03	4.3	4.3	8.3	10.0	15.23
C.O.C.	P	1.00					
CLORPRPOSYDIM	E2.0	0.10	2.3	2.3	8.3	10.0	15.93
C.O.C.	P	1.00					
CLORPROPOSYDIM	E2.0	0.20	1.0	1.0	6.3	10.0	14.70
C.O.C.	P	1.00					
SC-1084	E4.0	0.25	2.7	2.7	6.7	10.0	15.37
C.O.C.	P	1.00					
SC-1084	E4.0	0.38	1.3	1.3	3.7	10.0	15.47
C.O.C.	P	1.00					
SETHOXYDIM	E1.5	0.20	1.3	1.3	5.0	10.0	14.83
C.O.C.	P	1.00					
FLUAZIFOP-BUTYL	E1.0	0.13	1.3	1.3	5.3	10.0	13.53
C.O.C.	P	1.00					
FLUAZIFOP-BUTYL	E1.0	.156	2.7	2.7	4.3	10.0	16.00
C.O.C.	P	1.00					
FLUAZIFOP-BUTYL	E1.0	.188	1.3	1.3	6.0	10.0	14.77
C.O.C.	P	1.00					
FLUAZIFOP-BUTYL	E4.0	0.25	2.0	2.0	8.0	10.0	16.67
C.O.C.	P	1.00					
LEAST SIGNIFICANT DIFF. (.05)=			2.18	2.18	2.52	0.0	3.73
STANDARD DEVIATION =			1.31	1.31	1.51	0.0	2.24
COEFF. OF VARIABILITY =			60.66	60.66	30.25	0.0	14.77

1) PHYTOTOXICITY RATINGS ARE ON A 1 TO 10 SCALE WITH 1 = COMPLETE PLANT DEATH AND 10 = NO PLANT INJURY

TITLE: MUSKMELON /CHLORAMBEN RESIDUE STUDY

LOCATION: Columbus
PERSONNEL: S.F.Gorski & G.Myers

PLOT INFORMATION

A.) Soil Type: Brookston Silty Clay Loan 2% O.M., pH 6.0
B.) Variety: Gold Star
C.) Date Planted: May 30
D.) Date Harvested: August 26 - September 6
E.) Plot Size: 5 ft. by 50 ft.
F.) Rating Date: June 27
G.) Plot Design: RCB with 4 reps

HERBICIDE APPLICATION DATA

A.)	Date:	May 30	June 18
B.)	Type:	Pre	Post
C.)	Soil Moisture, Surf:	Moderate	Dry
D.)	Soil Temp (3in.):		
E.)	Weather		
	Wind (MPH):	Calm	Calm
	Cloud Cover:	Sunny	Partly Cloudy
	Air Temp:	75	75
F.)	Growth Stage, Crop:	Pre	1 true leaf
	Weed:	Pre	None

HERBICIDE APPLICATION EQUIPMENT

Sprayer: CO2 Backpack
GPA: 29.2
PSI: 30
Tips: 8002
Nozzle Spacing: 18 in.
Height: 18 in.

COMMENTS: There was no visible phytotoxicity to the muskmelons from either of the treatments. Weed data was not obtained as this was a relatively weed free field.

MUSKMELON/CHLORAMBEN RESIDUE STUDY

Herbicide Name	Form	Rate # ai/A	Growth Stage	Number of Melons	Yield (lbs)
Chloramben Carbon	DO.75	2.7	Pre	54.3	176.5
Chloramben	GO.10	3.0	Post	46.5	145.9
Control				49.0	145.0
Least Significant Diff. (.05)	=			13.3	53.6
Standard Deviation	=			7.7	30.9
Coeff. of Variability	=			15.4	19.8

TITLE: PARSLEY WEED CONTROL

LOCATION: Celeryville
PERSONNEL: S.F.Gorski & R.Hassell

PLOT INFORMATION

A.) Soil Type: Carlisle Muck, 75% O.M., pH 5.6
B.) Variety: Forest Green
C.) Date Planted: May 22
D.) Date Harvested: July 16
E.) Plot Size: 3 rows 16 in. apart on beds 5 ft. by 18 ft.
F.) Rating Date: June 11
G.) Plot Design: RCB with 4 reps

HERBICIDE APPLICATION DATA

A.) Date:	May 22	June 11
B.) Type:	Pre	Post
C.) Soil Moisture, Surf:	Moist	Dry
D.) Soil Temp (3in.):		
E.) Weather		
Wind (MPH):	Calm	3 MPH
Cloud Cover:	Cloudy	Cloudy
Air Temp:	65	65
F.) Growth Stage, Crop:	Preemergence	
		2-3 in. tall
Weed:	Preemergence	

HERBICIDE APPLICATION EQUIPMENT

Sprayer: CO2 Backpack
GPA: 29.2
PSI: 30
Tips: 8002
Nozzle Spacing: 18 in.
Height: 18 in.

COMMENTS: Reduced growth was noted with MON 097 (10-25 %),diethatyl ethyl (10-20 %), fluorochloridone (10-20 %), and metolachlor (10-20%). Plants soon outgrew this early injury and showed no reductions in yield. Weed control was variable depending on the weed species and herbicide. Many herbicides provided acceptable weed control. MON 097, chloramben, metolachlor, and diethatyl ethyl provided acceptable weed control several weeks beyond the other herbicide treatments. Linuron post applications were made for crop phyto data only.

PARSLEY WEED CONTROL

HERBICIDE NAME	FORM	RATE #ai/A	GROW. STAGE	WEED COUNTS PER SQ. FT. FAPA	BYGR	CRGR	COPU	COLQ	RRPW	LTSW	YIELD (lbs)
WEEDY				1.0	0.5	1.0	3.8	1.0	0.5	1.3	0.00
WEEDED				0.0	0.0	0.0	0.0	0.0	0.0	0.0	3.68
ETHALFLURALIN	E3.0	1.0	PRE	0.5	0.5	0.3	4.5	0.5	0.3	0.3	4.18
PROPACHLOR	E4.0	4.0	PRE	1.3	0.0	0.5	10.8	0.8	0.0	0.3	3.78
ALACHLOR	E4.0	4.0	PRE	0.0	0.0	0.0	0.3	0.3	0.0	0.3	2.99
ACETOCHLOR	E8.0	4.0	PRE	0.0	0.0	0.0	0.0	0.0	0.0	0.0	2.37
METOLACHLOR	E8.0	4.0	PRE	0.0	0.0	0.0	0.0	0.8	0.0	0.0	3.79
THIOBENCARB	E8.0	3.0	PRE	0.8	1.3	0.3	4.3	0.8	0.3	0.0	2.65
CHLORPROPHAM	E4.0	4.0	PRE	0.0	0.3	0.3	4.3	1.3	0.5	0.3	3.28
PROPACHLOR	E4.0	2.0	PRE	0.5	0.5	0.3	4.8	0.5	0.8	0.3	3.25
CHLORPROPHAM	E4.0	2.0	PRE								
ALACHLOR	E4.0	2.0	PRE	0.0	0.0	0.0	0.3	0.5	0.3	0.8	4.31
CHLORPROPHAM	E4.0	2.0	PRE								
ACETOCHLOR	E8.0	2.0	PRE	0.0	0.0	0.0	0.0	0.0	0.0	0.0	2.95
CHLORPROPHAM	E4.0	2.0	PRE								
METOLACHLOR	E8.0	2.0	PRE	0.3	0.0	0.0	2.0	0.0	0.0	0.0	3.37
CHLORPROPHAM	E4.0	2.0	PRE								
THIOBENCARB	E8.0	3.0	PRE	1.0	0.8	0.3	1.5	1.5	0.0	0.0	2.94
CHLORPROPHAM	E4.0	2.0	PRE								
FLUOROCHLORIDONE	E2.0	0.38	PRE	0.0	0.3	0.0	1.3	0.8	0.3	0.3	3.50
FLUOROCHLORIDONE	E2.0	0.50	PRE	0.3	0.3	0.3	1.0	0.0	0.0	0.8	5.17
LINURON	WO.50	1.50	PRE	1.0	0.5	0.3	5.3	0.5	0.0	0.3	3.56
LINURON	WO.50	0.25	POST								
LINURON	WO.50	1.50	PRE	0.3	1.0	0.3	3.8	0.5	0.0	0.0	3.96
LINURON	WO.50	0.50	POST								
DIETHATYL ETHYL	E4.0	6.0	PRE	0.0	0.0	0.0	0.3	0.8	0.0	0.0	3.51
DIETHATYL ETHYL	E4.0	8.0	PRE	0.0	0.0	0.0	0.0	0.0	0.0	0.0	5.36
CHLORAMBEN	DO.75	1.0	PRE	1.0	0.3	0.3	0.0	0.3	0.3	0.0	3.64
CHLORAMBEN	DO.75	2.0	PRE	0.0	0.0	0.0	0.0	0.0	0.0	0.0	5.07
LEAST SIGNIFICANT DIFF. (.05)=				1.16	0.86	0.70	3.23	1.01	0.44	0.68	1.90
STANDARD DEVIATION =				0.82	0.61	0.50	2.29	0.72	0.31	0.48	1.35
COEFF. OF VARIABILITY =				232.20	223.9	290.4	105.3	150.2	228.8	234.9	38.3

TITLE: POSTEMERGENCE WEED CONTROL IN PICKLES

LOCATION: Fremont
PERSONNEL: S.F.Gorski, & C.Willer

PLOT INFORMATION

A.) Soil Type: Sandy Loam, 3% O.M.
B.) Variety: Carolina
C.) Date Planted: June 4
D.) Date Harvested: July 22--August 1
E.) Plot Size: 3 ft. by 30 ft.
F.) Rating Date: July 11
G.) Plot Design: RCB with 3 reps

HERBICIDE APPLICATION DATA

A.) Date: July 2
B.) Type: Post
C.) Soil Moisture, Surf: Moist
D.) Soil Temp (3in.):
E.) Weather
Wind (MPH): Calm
Cloud Cover: Cloudy
Air Temp: 70
F.) Growth Stage, Crop: 3-4 true leaves

Weed: Hairy Crabgrass 2-6 lvs.
Fall Panicum 2-10 lvs.
Barnyardgrass 2-6 lvs

HERBICIDE APPLICATION EQUIPMENT

Sprayer: CO2 Backpack
GPA: 29.2
PSI: 30
Tips: 8002
Nozzle Spacing: 18 in.
Height: 18 in.

COMMENTS: SC-1084,DPX-Y6202 and fluazifop-butyl (4EC) all produced visible injury to the pickle plants. Injury was in the form of chlorosis, spotting, and stunting. Many of these treatments caused yield reductions. DPX-Y6202 was the most injurious.Weed control was excellent. Weed pressure was approximately 6-8 grasses per square foot. The population was evenly divided between the species mentioned above. All annual grasses were controlled by all treatments.

POSTEMERGENCE WEED CONTROL IN PICKLES

HERBICIDE NAME	FORM	RATE #ai/A	GROWTH STAGE	PICKLE PHYTO[1]	YIELD (lbs)
WEEDY				10.0	23.83
WEEDED				10.0	28.03
SC-1084	E4.0	0.25	POST	6.0	13.30
SC-1084	E4.0	0.25	POST	8.7	19.47
C.O.C.	P	1.00	POST		
SC-1084	E4.0	0.38	POST	8.3	17.10
C.O.C.	P	1.00	POST		
SC-1084	E4.0	0.38	POST	6.3	23.80
CLORPROPOSYDIM	E2.0	0.15	POST	8.3	25.83
C.O.C.	P	1.00	POST		
CLORPROPOSYDIM	E2.0	0.30	POST	7.7	22.13
C.O.C.	P	1.00	POST		
DPX-Y6202	E0.8	0.06	POST	7.0	12.13
C.O.C.	P	1.00	POST		
DPX-Y6202	E0.8	0.13	POST	6.3	9.63
C.O.C.	P	1.00	POST		
DPX-Y6202	E0.8	0.25	POST	2.7	5.97
C.O.C.	P	1.00	POST		
BAS51702	E1.67	0.20	POST	9.0	21.13
C.O.C.	P	1.00	POST		
BAS51702	E1.67	0.50	POST	9.0	24.50
C.O.C.	P	1.00	POST		
SETHOXYDIM	E1.53	0.2	POST	9.3	27.27
C.O.C.	P	1.00	POST		
NAPTALAM	E2.0	2.0	POST	8.7	28.30
SETHOXYDIM	E1.53	0.20	POST		
C.O.C.	P	1.00	POST		
FLUAZIFOP-BUTYL	E1.0	0.19	POST	9.0	18.00
C.O.C.	P	1.00	POST		
FLUAZIFOP-BUTYL	E4.0	0.25	POST	8.3	19.13
C.O.C.	P	1.00	POST		
LEAST SIGNIFICANT DIFFERENCE (.05)=				.9228	6.95
STANDARD DEVIATION				= .5535	4.17
COEFF. OF VARIABILITY				= 6.987	20.87

[1]Phytotoxicity is rated on a 1-10 scale with 10 = no injury and 1 = plant death.

TITLE: POTATO PREEMERGENCE WEED CONTROL

LOCATION: Columbus
PERSONNEL: S.F.Gorski & G.Myers

PLOT INFORMATION

A.) Soil Type: Brookston Silty Clay Loam, 2% O.M., pH 6.0
B.) Variety: Superior
C.) Date Planted: May 7
D.) Date Harvested: August 19
E.) Plot Size: 5 ft. by 25 ft.
F.) Rating Date: June 5
G.) Plot Design: RCB with 4 reps

HERBICIDE APPLICATION DATA

A.) Date: May 7
B.) Type: PPI & Pre
C.) Soil Moisture, Surf: Moist
D.) Soil Temp (3in.):
E.) Weather
Wind (MPH): Calm
Cloud Cover: Clear
Air Temp: 70
F.) Growth Stage, Crop: Preemergence

Weed: Preemergence

HERBICIDE APPLICATION EQUIPMENT

Sprayer: CO2 Backpack
GPA: 29.2
PSI: 30
Tips: 8002
Nozzle Spacing: 18 in.
Height: 18 in.

INCORPORATION EQUIPMENT: Rototiller cutting 2.5-3 inches deep

COMMENTS: A slight leaf crinkling was observed on the first emerging potato leaves. This was not severe and not considered to be a problem. No other injury was observed from any of the treatments. EPTC did not control Galinsoga spp..
It was also weak on the other broadleaf spp..

POTATO PREEMERGENCE WEED CONTROL

HERBICIDE NAME	FORM	RATE #ai/A	GROW. STAGE	COUNTS PER SQ.FT. BYGR	CRGR	RRPW	COLQ	COPU	HAGA	YIELD #1 (lbs)	TOTAL YIELD (lbs)
WEEDY				7.5	2.0	9.0	9.3	7.3	4.0	15.8	22.6
WEEDED				0.0	0.0	0.0	0.0	0.0	0.0	25.5	35.3
METOLACHLOR	E8.0	2.5	PRE	0.0	0.0	0.0	2.3	0.0	0.0	22.0	33.0
LACTOFEN	E2.0	0.25	PRE								
METOLACHLOR	E8.0	2.5	PRE	0.0	0.0	0.0	0.0	0.0	0.0	18.3	30.8
PPG 1013	E0.25	0.15	PRE								
METOLACHLOR	E8.0	2.0	PRE	0.0	0.0	0.0	0.0	0.0	0.0	22.4	33.3
FLUOROCHLORIDONE	E2.0	0.38	PRE								
METOLACHLOR	E8.0	2.0	PRE	0.0	0.0	0.0	0.0	0.0	0.0	30.1	41.8
FLUOROCHLORIDONE	E2.0	0.5	PRE								
EPTC	E7.0	4.0	PPI	0.8	0.3	2.8	8.5	1.5	6.0	22.9	34.1
EPTC + R33685	E6.0	4.0	PPI	0.8	0.0	1.5	8.0	1.5	7.3	19.3	28.6
L.S.D. (.05)			=	0.8	0.5	2.7	5.1	2.2	1.9	10.9	11.2
STANDARD DEVIATION			=	0.5	0.3	1.8	3.4	1.5	1.3	7.5	7.6
COEFF. OF VARIABILITY			=	48.5	126.4	111.1	99.2	121.2	61.7	33.6	23.5

TITLE: POTATO POSTEMERGENCE GRASS CONTROL WITH DPX-Y6202
30 DAYS BEFORE HARVEST APPLICATION

LOCATION: Columbus
PERSONNEL: S.F.Gorski & G.Myers

PLOT INFORMATION

A.) Soil Type: Brookston Silty Clay Loam, 2% O.M., pH 6.0
B.) Variety: Superior
C.) Date Planted: May 7
D.) Date Harvested: August 19
E.) Plot Size: 5 ft. by 25 ft.
F.) Rating Date: August 2
G.) Plot Design: RCB with 4 reps

HERBICIDE APPLICATION DATA

A.) Date:	May 8	July 22
B.) Type:	Pre	Post
C.) Soil Moisture, Surf:	Moist	Moist
D.) Soil Temp (3in.):		
E.) Weather		
Wind (MPH):	Calm	Calm
Cloud Cover:	Clear	Clear
Air Temp:	75	80
F.) Growth Stage, Crop:	Pre	24-30 in.
Weed:	Pre	None

HERBICIDE APPLICATION EQUIPMENT

Sprayer: CO2 Backpack
GPA: 29.2
PSI: 30
Tips: 8002
Nozzle Spacing: 18 in.
Height: 18 in.

COMMENTS: This was a potato residue and phytotoxicity study. The plants had completely closed the rows and were actively growing. No visible injury was observed with any of the rates applied.

POTATO POSTEMERGENCE GRASS CONTROL WITH DPX-Y6202
30 DAYS BEFORE HARVEST

RATE #ai/A	YIELD #1 (lbs)	TOTAL YIELD (lbs)
CONTROL	31.53	37.75
0.06	35.85	44.55
0.13	22.25	34.20
0.25	23.88	34.97
0.50	27.75	39.25
LEAST SIGNIFICANT DIFF. (.05)=	9.56	11.59
STANDARD DEVIATION =	6.21	7.52
COEFF. OF VARIABILITY =	21.98	19.72

All herbicide treatments recieved crop oil concentrate in conjunction with herbicide at a rate of 1% v/v.

TITLE: POTATO POSTEMERGENCE GRASS CONTROL
60 DAYS BEFORE HARVEST APPLICATION

LOCATION: Columbus
PERSONNEL: S.F.Gorski & G.Myers

PLOT INFORMATION

A.) Soil Type: Brookston Silty Clay Loam, 2% O.M., pH 6.0
B.) Variety: Superior
C.) Date Planted: April 29
D.) Date Harvested: August 19
E.) Plot Size: 5 ft. by 25 ft.
F.) Rating Date: June 26
G.) Plot Design: RCB with 4 reps

HERBICIDE APPLICATION DATA

A.) Date:	May 8	June 19
B.) Type:	Pre	Post
C.) Soil Moisture, Surf:	Moist	Moist
D.) Soil Temp (3in.):		
E.) Weather		
Wind (MPH):	Calm	Calm
Cloud Cover:	Clear	Partly Cloudy
Air Temp:	75	70
F.) Growth Stage, Crop:	Pre	2 ft.
Weed:	Pre	None

HERBICIDE APPLICATION EQUIPMENT

Sprayer: CO2 Backpack
GPA: 29.2
PSI: 30
Tips: 8002
Nozzle Spacing: 18 in.
Height: 18 in.

COMMENTS: DPX-Y6202 was the only treatment to show visible injury from the post treatments. Injury was slight chlorosis at the lower rates and increased to total leaf chlorosis of the terminal leaves. It appears as though there was some translocation to the new growth. Yield results did not show a clear trend of reducing yields with increasing rates. The addition of metribuzin to sethoxydim and fluazifop-butyl appears to be adversely affecting yield.

POTATO POSTEMERGENCE GRASS CONTROL 60 DAYS BEFORE HARVEST

HERBICIDE NAME	FORM	RATE #ai/A	YIELD #1 (lbs)	TOTAL YIELD (lbs)
CONTROL			41.75	51.48
DPX-Y6202	E0.8	0.06	28.38	37.58
C.O.C.		1.0%		
DPX-Y6202	E0.8	0.13	32.40	42.15
C.O.C.		1.0%		
DPX-Y6202	E0.8	0.25	36.40	45.63
C.O.C.		1.0%		
DPX-Y6202	E0.8	0.50	29.38	39.33
C.O.C.		1.0%		
METRIBUZIN	D0.75	0.25	37.23	46.13
DPX-Y6202	E0.8	0.13		
C.O.C.		1.0%		
METRIBUZIN	D0.75	0.25	32.68	42.63
DPX-Y6202	E0.8	0.25		
C.O.C.		1.0%		
METRIBUZIN	D0.75	0.25	42.98	55.30
BAS51702	E1.67	0.10	40.35	50.55
C.O.C.		1.0%		
BAS51702	E1.67	0.20	40.25	49.38
C.O.C.		1.0%		
BAS51702	E1.67	0.50	35.33	45.70
C.O.C.		1.0%		
BAS51702	E1.67	0.50	30.63	39.45
CLOPROPOSYDIM	E2.0	0.03	30.80	41.98
C.O.C.		1.0%		
CLOPROPOSYDIM	E2.0	0.10	35.08	46.23
C.O.C.		1.0%		
CLOPROPOSYDIM	E2.0	0.20	45.75	54.23
C.O.C.		1.0%		
SC-1084	E4.0	0.25	38.00	46.90
C.O.C.		1.0%		
SC-1084	E4.0	0.38	32.00	41.00
C.O.C.		1.0%		
METRIBUZIN	D0.75	0.25	30.43	39.95
SETHOXYDIM	E1.5	0.20		
C.O.C.		1.0%		
METRIBUZIN	D0.75	0.25	29.60	38.40
FLUAZIFOP-BUTYL	E1.0	0.19		
C.O.C.		1.0%		
SETHOXYDIM	E1.5	0.20	41.47	53.05
C.O.C.		1.0%		
FLUAZIFOP-BUTYL	E1.0	0.19	34.20	44.75
C.O.C.		1.0%		
L.S.D. (.05)		=	12.01	12.34
STANDARD DEVIATION		=	8.49	8.73
COEFF. OF VARIABILITY		=	23.94	19.26

TITLE: SWEET CORN WEED CONTROL

LOCATION: Columbus
PERSONNEL: S.F.Gorski & G.Myers

PLOT INFORMATION

A.) Soil Type: Brookston Silty Clay Loam, 2% O.M., pH 6.0
B.) Variety: Gold Cup
C.) Date Planted: May 8
D.) Date Harvested: August 1
E.) Plot Size: 5 ft. by 25 ft.
F.) Rating Date: June 14
G.) Plot Design: RCB with 3 reps

HERBICIDE APPLICATION DATA

A.)	Date:	May 8	June 26
B.)	Type:	PPI & Pre	Post
C.)	Soil Moisture, Surf:	Moist	Moist
D.)	Soil Temp (3in.):		
E.)	Weather		
	Wind (MPH):	Calm	Calm
	Cloud Cover:	Sunny	Sunny
	Air Temp:	70	80
F.)	Growth Stage, Crop:	Preemergence	
			18 in.
	Weed:	Preemergence	
			purslane 3-4 leaf
			pigweed 4-6 in.
			smartweed 2-4 in.

HERBICIDE APPLICATION EQUIPMENT

Sprayer: CO2 Backpack
GPA: 29.2
PSI: 30
Tips: 8002
Nozzle Spacing: 18 in.
Height: 18 in.

INCORPORATION EQUIPMENT: Disc double pass set to cut 4 in.

COMMENTS: Weed control with bromoxynil was complete. There was no foliar injury to the corn. All other treatments were noninjurious to the corn.

SWEET CORN WEED CONTROL

HERBICIDE NAME	FORM	RATE #ai/A	GROW. STAGE	COUNT PER SQ.FT. COPU	COUNT PER SQ.FT. BYGR	YIELD (lbs.)
WEEDY				13.7	6.0	15.6
WEEDED				0.0	0.0	16.0
CYCLOATE + R-25788	E6.0	3.0	PPI	6.3	0.3	13.0
CYCLOATE + R-25788	E6.0	4.0	PPI	2.7	0.0	18.0
CYCLOATE + R-25788	E6.0	5.0	PPI	2.7	0.0	18.3
EPTC + R-33865	E6.0	3.0	PPI	6.7	0.0	16.0
EPTC + R-33865	E6.0	5.0	PPI	3.7	0.0	15.6
METOLACHLOR BROMOXYNIL	E8.0 E2.0	2.0 0.25	PRE POST	0.0	0.0	23.3
METOLACHLOR BROMOXYNIL	E8.0 E2.0	2.0 0.38	PRE POST	0.0	0.0	13.6
ALACHLOR LACTOFEN	E4.0 E2.0	2.5 0.25	PRE PRE	0.0	0.0	11.0
METOLACHLOR LACTOFEN	E8.0 E2.0	2.5 0.25	PRE PRE	0.0	0.0	14.6
ALACHLOR PPG 1013	E4.0 E0.25	2.5 0.15	PRE PRE	0.0	0.0	19.0
METOLACHLOR PPG 1013	E8.0 E0.25	2.5 0.15	PRE PRE	0.0	0.0	15.0
ALACHLOR	E8.0	2.5	PRE	0.0	0.0	16.0
LEAST SIGNIFICANT DIFF. (.05)=				7.6	1.6	10.8
STANDARD DEVIATION =				4.5	1.0	6.4
COEFF. OF VARIABILITY =				168.6	210.0	40.0

TITLE: SWEET CORN CULTIVAR TOLERANCE TO BROMINAL

LOCATION: Columbus
PERSONNEL: S.F.Gorski & G.Myers

PLOT INFORMATION

A.) Soil Type: Brookston Silty Clay Loam, 2% O.M., pH 6.0
B.) Variety: Various
C.) Date Planted: May 8
D.) Date Harvested:
E.) Plot Size: 5 ft. by 25 ft.
F.) Rating Date: June 26
G.) Plot Design: RCB with 3 reps

HERBICIDE APPLICATION DATA

A.) Date: June 16
B.) Type: Post
C.) Soil Moisture, Surf: Moderate
D.) Soil Temp (3in.):
E.) Weather
Wind (MPH): Calm
Cloud Cover: Sunny
Air Temp: 75
F.) Growth Stage, Crop: 12-18 in.
Weed: 2-6 in.

HERBICIDE APPLICATION EQUIPMENT

Sprayer: Tractor Sprayer
GPA: 25
PSI: 30
Tips: 8004
Nozzle Spacing: 18 in.
Height: 18 in.

COMMENTS: This was an observation trial to obtain sweet corn cultivar phytotoxicity ratings. Brominal 2EC was applied at 0.375 lbs ai/A. Injury was in the form of leaf burn. Plants out grew the injury with no yield reductions.

SWEET CORN CULTIVAR TOLERANCE TO BROMINAL

VARIETY	PHYTO
BICOLOR	
1.PRIDE AND JOY	9.0
	8.0
2.HONEY MOON	10.0
3.CALYPSO	9.0
4.CORNFETTI	9.0
5.SWEET CHECKS	10.0
WHITE	
6.PLATINUM LADY	9.0
	8.0
7.SILVER STREAK	10.0
8.SILVER PAC	10.0
9.SILVER BULLET	8.0
	9.0
10.SILVER QUEEN	10.0
YELLOW	
11.SPIRIT	10.0
12.HORIZON	9.0
13.INTREPID	9.0
14.DEBUT	7.0
	8.0
	9.0
	8.0
15.BELLRINGER	10.0
16.EXCELLENCY	9.0
17.GOLDEN GLADE	10.0
18.SENECA PINTO	10.0
19.SENECA STAR	9.0
20.SENECA PALEFACE	10.0
21.SENECA SENTRY	9.0
22.GOLD RING	10.0
23.SUMMER DELICIOUS	9.0
	8.0
	9.0
24.SUNBEAM	10.0
25.PEPPIN	10.0
26.ACHIEVER	10.0
27.FMX 163	10.0
28.ARCO 84	10.0
29.ARCO 424	9.0
30.ARCO 5877	10.0
31.ARCO 5308	10.0
32.WX 9060	10.0
33.HXP 3368	10.0
34.82-2203	10.0

VARIETY	PHYTO
35.81-2860	10.0
36.82-2676	10.0
37.81-2808	8.0
38.AVX-2540	10.0
39.AVX-5651	9.0
40.AVX-2563	10.0
41.MOX 2049	10.0
42.82-2197	9.0
43.81-2866	10.0
44.LIBEXCR	10.0
45.COMANETTE	10.0
46.WHITE NIGHT	10.0
47.APACHE	10.0
48.XPH 2574 W	10.0
49.XPH 2572	10.0
50.DANDY	10.0
51.XPH 2559 SH_2	10.0
52.SNOWBELLE	8.0
53.CARNIVAL	10.0
54.XPH 2575 SH_2	10.0
55.EO502	9.0
56.FMX 27	10.0
57.FMX 165	10.0
58.FMX 30	10.0
59.FMX 96	10.0
60.FMX 33	10.0
61.FMX 93	10.0
62.FMX 108	10.0
63.FMX 46	10.0
64.FMX 178	10.0
65.SUMMER SWEET BICOLOR 8502	10.0
66.SUMMER SWEET 7200	10.0
67.SUMMER SWEET 7600	10.0
68.SUMMER SWEET 8601 WHITE	10.0
69.SUMMER SWEET 7800	10.0
70.MIRACLE 85	10.0
71.DOUBLE DELIGHT 87	10.0
72.FMX 81	10.0
73.HXP 33595	10.0
74.FMX 244	10.0
75.HXP 3365S	10.0
76.FMX 76	10.0
77.MIRACLE	10.0
78.FMX 79	10.0

TITLE: TOMATO POSTEMERGENCE WEED CONTROL

LOCATION: Fremont
PERSONNEL: S.F.Gorski & C.Willer

PLOT INFORMATION

A.) Soil Type: Sandy Loam, 3% O.M.
B.) Variety: OH 7870
C.) Date Planted: May 20
D.) Date Harvested: September 23
E.) Plot Size: 5 ft. by 30 ft.
F.) Rating Date: July 20
G.) Plot Design: RCB with 3 reps

HERBICIDE APPLICATION DATA

A.) Date: July 10
B.) Type: Postemergence

C.) Soil Moisture, Surf: Wet
D.) Soil Temp (3in.):
E.) Weather
Wind (MPH): Calm
Cloud Cover: Cloudy
Air Temp: 70
F.) Growth Stage, Crop: 5-6 leaf

Weed: None present

HERBICIDE APPLICATION EQUIPMENT

Sprayer: CO2 Backpack
GPA: 29.2
PSI: 30
Tips: 8002
Nozzle Spacing: 18 in.
Height: 18 in.

COMMENTS: Grass pressure was nonexistent. There was no injury to the tomatoes from any treatment.

HERBICIDE NAME	FORM	RATE #ai/A	GROWTH STAGE	FRUIT WEIGHT (lbs.) RED	GREEN	TOTAL
CONTROL				159.6	90.7	250.3
DPX-Y-6202	E0.8	0.13	POST	177.7	75.1	252.9
C.O.C.	P	1.00	POST			
DPX-Y-6202	E0.8	0.25	POST	192.3	74.8	267.1
C.O.C.	P	1.00	POST			
METRIBUZIN	D0.75	0.25	POST	186.7	90.1	276.9
DPX-Y-6202	E0.8	0.13	POST			
C.O.C.	P	1.00	POST			
METRIBUZIN	D0.75	0.25	POST	185.2	81.3	266.5
DPX-Y-6202	E0.8	0.25	POST			
C.O.C.	P	1.00	POST			
METRIBUZIN	D0.75	0.25	POST	191.2	85.1	276.3
BAS51702	E1.67	0.1	POST	187.6	70.9	258.5
C.O.C.	P	1.00	POST			
BAS51702	E1.67	0.2	POST	179.2	83.4	262.6
C.O.C.	P	1.00	POST			
BAS51702	E1.67	0.50	POST	178.0	92.6	270.7
C.O.C.	P	1.00	POST			
BAS51702	E1.67	0.50	POST	170.1	84.5	254.7
CLOPROPOSYDIM	E2.0	0.05	POST	184.0	79.7	263.7
C.O.C.	P	1.00	POST			
CLOPROPOSYDIM	E2.0	0.15	POST	189.4	75.9	265.4
C.O.C.	P	1.00	POST			
CLOPROPOSYDIM	E2.0	0.30	POST	196.0	74.2	270.2
C.O.C.	P	1.00	POST			
SC-1084	E4.0	0.25	POST	173.0	81.5	254.6
C.O.C.	P	1.00	POST			
SC-1084	E4.0	0.38	POST	193.3	93.5	286.8
C.O.C.	P	1.00	POST			
METRIBUZIN	D0.75	0.25	POST	158.1	100.9	259.1
SETHOXYDIM	E1.5	0.20	POST			
C.O.C.	P	1.00	POST			
METRIBUZIN	D0.75	0.25	POST	155.8	82.3	238.2
FLUAZIFOP-BUTYL	E1.0	0.19	POST			
C.O.C.	P	1.00	POST			
SETHOXYDIM	E1.5	0.20	POST	170.5	91.3	261.8
C.O.C.	P	1.00	POST			
FLUAZIFOP-BUTYL	E1.0	0.13	POST	168.1	78.5	246.6
C.O.C.	P	1.00	POST			
FLUAZIFOP-BUTYL	E1.0	.156	POST	184.5	84.4	268.9
C.O.C.	P	1.00	POST			
FLUAZIFOP-BUTYL	E1.0	.188	POST	206.3	91.4	297.8
C.O.C.	P	1.00	POST			
FLUAZIFOP-BUTYL	E4.0	0.25	POST	198.3	79.3	277.6
C.O.C.	P	1.00	POST			
LEAST SIGNIFICANT DIFF. (.05)		=		30.6	25.5	35.7
STANDARD DEVIATION		=		18.5	15.4	21.6
COEFF. OF VARIABILITY		=		10.2	18.4	8.1

TITLE: TOMATO PREEMERGENCE WEED CONTROL

LOCATION: Fremont
PERSONNEL: S.F.Gorski & C.Willer

PLOT INFORMATION

A.) Soil Type: Sandy Loam, 3% O.M.
B.) Variety: OH 7870
C.) Date Planted: May 20
D.) Date Harvested: September 23
E.) Plot Size: 5 ft. by 30 ft.
F.) Rating Date: June 17
G.) Plot Design: RCB with 3 reps

HERBICIDE APPLICATION DATA

A.) Date: May 20
B.) Type: Preemergence

C.) Soil Moisture, Surf: Moist
D.) Soil Temp (3in.):
E.) Weather
Wind (MPH): 5 MPH
Cloud Cover: Sunny
Air Temp: 65
F.) Growth Stage, Crop: Preemergence

Weed: Preemergence

HERBICIDE APPLICATION EQUIPMENT

Sprayer: CO2 Backpack
GPA: 29.2
PSI: 30
Tips: 8002
Nozzle Spacing: 18 in.
Height: 18 in.

INCORPORATION EQUIPMENT: Rototiller cutting 1-2 inches

COMMENTS: Weed pressure was light which prevented any meaningful weed data from being obtained. Diethatyl ethyl was phytotoxic to tomato seeds. Tomato seedlings did not emerge in these treatments. Use of the activated carbon protection system prevented any injury from occuring with chloramben, diphenamid and metribuzin.

TOMATO PREEMERGENCE WEED CONTROL

HERBICIDE NAME	FORM	RATE #ai/A	GROWTH STAGE	COLQ	TOMATO PHYTO[1]	FRUIT WEIGHT (lbs.) RED	GREEN	TOTAL
WEEDY				2.7	10.0	0.0	0.0	0.0
WEEDED				0.0	10.0	175.7	72.5	248.6
CHLORAMBEN CARBON	D0.75	2.7	PRE	0.0	9.7	189.0	78.4	268.3
CHLORAMBEN	D0.75	2.7	PRE	0.0	10.0	194.7	59.2	254.4
DIPHENAMID	W0.90	3.0	PRE					
CARBON								
CHLORAMBEN	D0.75	2.7	PRE	0.0	9.7	182.3	64.1	247.1
METRIBUZIN	D0.75	0.25	PRE					
CARBON								
CHLORAMBEN	D0.75	2.7	PRE	0.0	10.0	196.7	71.9	269.2
NAPROPAMIDE	W0.50	1.5	PPI					
CARBON								
NAPROPAMIDE	W0.50	1.5	PPI	0.0	9.7	195.7	67.4	263.2
DIPHENAMID	W0.90	3.0	PPI					
NAPROPAMIDE	W0.50	2.0	PPI	0.3	9.7	189.7	78.3	268.2
DIPHENAMID	W0.90	5.0	PPI	0.7	9.7	201.7	69.7	272.0
DIETHATYL ETHYL	E4.0	4.0	PRE	0.7	1.0	0.0	0.0	0.0
LEAST SIGNIFICANT DIFF. (.05)		=		1.0	0.7	27.3	15.1	30.0
STANDARD DEVIATION		=		0.6	0.4	15.9	8.8	17.5
COEFF. OF VARIABILITY		=		139.7	4.6	10.4	15.7	8.3

[1] Phytotoxicity is rated on a 1-10 scale with 1 = complete plant death and 10 = no injury.

TITLE: SEEDED TOMATO TOLERANCE TO ACIFLUORFEN

LOCATION: Columbus
PERSONNEL: S.F.Gorski & G.Myers

PLOT INFORMATION

A.) Soil Type: Brookston Silty Clay Loam, 2% O.M., pH 6.0
B.) Variety: Easy Harvest
C.) Date Planted: May 8
D.) Date Harvested: September 6
E.) Plot Size: 5 ft. by 25 ft.
F.) Rating Date: 7-10 days after treatment application
G.) Plot Design: RCB with 3 reps

HERBICIDE APPLICATION DATA

A.) Date:		May 8	May 29	June 14	June 28
B.) Type:		PPI	Post 2	Post 5	Post 8
C.) Soil Moisture, Surf:		Moderate	Moist	Wet	Moist
D.) Soil Temp (3in.):					
E.) Weather					
	Wind (MPH):	Calm	Calm	Calm	Calm
	Cloud Cover:	Sunny	Sunny	Cloudy	Sunny
	Air Temp:	70	75	70	70
F.) Growth Stage,	Crop:	Pre	2 leaf	5 leaf	8 leaf
	Weed:	Pre	BLNS 2 lvs.	BLNS 4-6 lvs.	BLNS 6-8 in.
			COPU coty.	COPU 2-4 lvs.	COPU 3-4 in.
			HAGA 2-4 lvs.	HAGA 4-6 lvs.	HAGA 4-6 in.

HERBICIDE APPLICATION EQUIPMENT

Sprayer: CO2 Backpack
GPA: 29.2
PSI: 30
Tips: 8002
Nozzle Spacing: 18 in.
Height: 18 in.

INCORPORATION EQUIPMENT: Rototiller cutting 2 inches for napropamide

COMMENTS: Applications at the tomato 2 leaf stage were quite injurious, As the rate increased so did the injury. Plants receiving the 0.5 lb. treatment were brittle and burnt. As the yield data shows they were able to outgrow this injury and produce acceptable yields.Visual evaluation at that time was sure not a true indication of the tomatoes ability to respond to such a stress. Applications at the 5 leaf stage provided a true rate response for both visual injury and yield. As the tomato grew it gained tolerance to acifluorfen. There was little injury when applied to tomatoes in the 8 leaf stage of growth. Weed counts were taken before each treatment date these counts are reported as the control. the controls were weeded after the counts were made and treatments applied.

SEEDED TOMATO TOLERANCE TO ACIFLUORFEN

RATE #ai/A	GROWTH STAGE	BLNI	HAGA	COPU	COLQ	6/4 PHYTO[1]	6/14 PHYTO
CONTROL		7.0	6.3	1.3	6.0	10.0	10.0
0.063	2 LEAF STAGE	1.0	1.0	0.0	0.3	8.7	7.7
0.125	2 LEAF STAGE	0.0	0.0	0.0	0.0	8.3	7.3
0.25	2 LEAF STAGE	0.0	0.0	0.0	0.0	4.7	4.7
0.50	2 LEAF STAGE	0.0	0.0	0.0	0.0	1.0	1.3
LEAST SIGNIFICANT DIFF. (.05)=		3.035	6.192	1.286	4.599	1.718	1.239
STANDARD DEVIATION =		1.612	3.288	.6831	2.442	.9128	.6582
COEFF. OF VARIABILITY =		120.9	269.0	307.4	231.4	16.76	12.74
						6/20 PHYTO	6/26 PHYTO
CONTROL	5 LEAF STAGE	5.3	0.7	0.0	0.7	10.0	10.0
0.063	5 LEAF STAGE	0.3	1.0	0.0	0.0	7.7	8.7
0.125	5 LEAF STAGE	0.0	0.0	0.7	5.3	7.0	7.7
0.25	5 LEAF STAGE	0.0	0.0	0.0	0.7	4.7	6.3
0.50	5 LEAF STAGE	0.0	0.0	0.0	0.7	2.7	4.3
LEAST SIGNIFICANT DIFF. (.05)=		1.203	1.069	.6263	4.339	.8086	.9279
STANDARD DEVIATION =		.7018	.6236	.3651	2.529	.4714	.5409
COEFF. OF VARIABILITY =		136.2	411.5	602.4	379.4	16.20	16.08
						7/5 PHYTO	7/12 PHYTO
CONTROL	8 LEAF STAGE	5.3	2.3	4.0	8.3	10.0	10.0
0.063	8 LEAF STAGE	2.3	0.7	3.7	0.31	10.0	10.0
0.125	8 LEAF STAGE	5.0	2.0	2.3	0.0	9.7	10.0
0.25	8 LEAF STAGE	7.3	1.0	1.7	2.7	8.7	10.0
0.50	8 LEAF STAGE	3.3	2.0	0.3	0.3	7.7	9.0
LEAST SIGNIFICANT DIFF. (.05)=		2.856	1.889	2.708	2.441	1.575	.8420
STANDARD DEVIATION =		1.708	1.129	1.619	1.460	.8366	.4472
COEFF. OF VARIABILITY =		117.1	225.9	215.9	200.2	9.094	4.563

[1]Phytotoxicity is rated on a 1-10 scale with 10 = no effect and 1 = plant death.

SEEDED TOMATO TOLERANCE TO ACIFLUORFEN

RATE #ai/A	GROWTH STAGE	FRUIT WEIGHT (lbs.) GREEN	RED	TOTAL
UNWEEDED		7.33	6.73	14.07
WEEDED	2 LEAF STAGE	14.53	43.07	57.60
0.063	2 LEAF STAGE	21.57	37.60	59.17
0.125	2 LEAF STAGE	20.57	44.17	64.73
0.25	2 LEAF STAGE	23.67	42.23	65.90
0.50	2 LEAF STAGE	39.10	24.40	63.50
WEEDED	5 LEAF STAGE	23.43	45.87	69.30
0.063	5 LEAF STAGE	25.90	57.80	83.70
0.125	5 LEAF STAGE	23.33	35.07	58.40
0.25	5 LEAF STAGE	33.20	33.20	66.40
0.50	5 LEAF STAGE	30.70	23.47	54.17
WEEDED	8 LEAF STAGE	31.33	44.20	75.53
0.063	8 LEAF STAGE	19.07	41.13	60.20
0.125	8 LEAF STAGE	19.67	38.67	58.33
0.25	8 LEAF STAGE	19.80	35.47	59.27
0.50	8 LEAF STAGE	21.67	34.70	56.37
LEAST SIGNIFICANT DIFF. (.05)=		13.07	19.46	23.40
STANDARD DEVIATION =		7.840	11.67	14.03
COEFF. OF VARIABILITY =		34.01	32.89	23.97

TITLE: TRANSPLANT TOMATO TOLERANCE TO METOLACHLOR

LOCATION: Columbus
PERSONNEL: S.F.Gorski & G.Myers

PLOT INFORMATION

A.) Soil Type: Brookston Silty Clay Loam, 2% O.M., pH 6.0
B.) Variety: 2653
C.) Date Planted: May 23
D.) Date Harvested: August 23
E.) Plot Size: 5 ft. by 25 ft.
F.) Rating Date: 10 to 14 days after treatment application
G.) Plot Design: RCB with 3 reps

HERBICIDE APPLICATION DATA

A.)	Date:	May 23	May 30	June 6	June 14
B.)	Type:	Post	Post 1	Post 2	Post 3
C.)	Soil Moisture, Surf:	Moist	Moderate	Dry	Wet
D.)	Soil Temp (3in.):				
E.)	Weather				
	Wind (MPH):	Calm	Calm	Calm	Calm
	Cloud Cover:	Cloudy	Sunny	Cloudy	Cloudy
	Air Temp:	75	75	65	65
F.)	Growth Stage, Crop:	planting	stressed	recovered	growing
	Weed:				

HERBICIDE APPLICATION EQUIPMENT

Sprayer: CO2 Backpack
GPA: 29.2
PSI: 30
Tips: 8002
Nozzle Spacing: 18 in.
Height: 18 in.

COMMENTS: This was a phyto study only. Applications made during the planting operation had the least negative effect on the tomatoes. As the plants recovered from transplanting shock the amount of injury increased. Injury was in the form of leaf burn, curl and plant stunting. Yields followed a similar trend with decreasing yields as time after application increased.

TRANSPLANT TOMATO TOLERANCE TO METOLACHLOR

RATE #ai/A	GROWTH STAGE	YIELD (lbs)
0	WEEDED CHECK	79.77
2.0	AT TRANSPLANTING	71.07
2.0	1 WEEK AFTER TRANSPLANTING	69.53
2.0	2 WEEKS AFTER TRANSPLANTING	58.97
2.0	3 WEEKS AFTER TRANSPLANTING	55.80
	LEAST SIGNIFICANT DIFF. (.05)=	16.49
	STANDARD DEVIATION =	8.762
	COEFF. OF VARIABILITY =	13.07

TITLE: TRANSPLANT TOMATO WEED CONTROL

LOCATION: Columbus
PERSONNEL: S.F.Gorski & G.Myers

PLOT INFORMATION

A.) Soil Type: Brookston Silty Clay Loam, 2% O.M., pH 6.0
B.) Variety: 2653
C.) Date Planted: May 23
D.) Date Harvested: August 23
E.) Plot Size: 5 ft. by 25 ft.
F.) Rating Date: June 14
G.) Plot Design: RCB with 3 reps

HERBICIDE APPLICATION DATA

A.) Date:	May 23	June 3
B.) Type:	PPI	Post
C.) Soil Moisture, Surf:	Moist	Dry
D.) Soil Temp (3in.):		
E.) Weather		
Wind (MPH):	Calm	Calm
Cloud Cover:	Cloudy	Cloudy
Air Temp:	75	75
F.) Growth Stage, Crop:	PPI	Recovered from transplanting
Weed:		

HERBICIDE APPLICATION EQUIPMENT

Sprayer: CO2 Backpack
GPA: 29.2
PSI: 30
Tips: 8002
Nozzle Spacing: 18 in.
Height: 18 in.

INCORPORATION EQUIPMENT: Rototiller cutting 2 inches

COMMENTS: Weeds were removed before the chloramben granules were applied. Neither treatment injured the tomatoes. Chloramben did not control the Galinsoga.

TRANSPLANT TOMATO WEED CONTROL

Herbicide Name	Form	Rate # ai/A	Grow. Stage	Counts Per Sq.Ft. RRPW	COLQ	COPU	HAGA	BYGR	Yield (lbs)
Weedy				3.3	4.7	6.3	3.7	4.7	68.2
Weeded				0.0	0.0	0.0	0.0	0.0	79.7
Trifluralin	E4.0	1.0	PPI	0.0	0.0	0.0	0.0	0.0	93.1
Metribuzin	DO.75	0.25	PPI						
Chloramben	GO.10	3.0	Post	0.0	0.0	0.0	4.7	1.7	101.0
Least Significant Diff. (.05)			=	3.0	1.5	2.5	2.3	2.4	36.2
Standard Deviation			=	1.5	0.7	1.2	1.1	1.2	18.1
Coeff. of Variability			=	183.3	65.4	79.4	55.9	78.0	21.1

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- Muck Crop Growers Association
- Ohio Food Processors Association
- Ohio Potato Growers Association
- PPG Industries Inc.
- Rhone-Poulenc Chemical Co.
- SDS Industries
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